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INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 03/04207A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L25/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|----------|--|-----------------------|
| A | US 4 707 740 A (STRATTON BOYD L) 17 November 1987 (1987-11-17) cited in the application: column 3, line 9 -column 4, line 61 figure 2 --- | 1-6 |
| A | EP 0 844 736 A (SHARP KK) 27 May 1998 (1998-05-27) abstract column 4, line 20 -column 6, line 15 --- | 1-6 |
| A | US 5 969 646 A (LIU ZHENHUA ET AL) 19 October 1999 (1999-10-19) column 3, line 15 -column 4, line 55 --- -/- | 1-6 |

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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Date of the actual completion of the international search

Date of mailing of the international search report

27 January 2004

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PCT/IB 03/04207**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|----------|---|-----------------------|
| A | PATENT ABSTRACTS OF JAPAN vol. 018, no. 370 (P-1768), 12 July 1994 (1994-07-12) & JP 06 096405 A (MATSUSHITA ELECTRIC IND CO LTD), 8 April 1994 (1994-04-08) abstract ----- | 1-6 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 03/04207

| Patent document cited in search report | Publication date | | Patent family member(s) | | Publication date |
|--|------------------|------------|--|--|--|
| US 4707740 | A | 17-11-1987 | CA GB JP JP | 1243772 A1 2189108 A ,B 7101921 B 63023484 A | 25-10-1988 14-10-1987 01-11-1995 30-01-1988 |
| EP 0844736 | A | 27-05-1998 | JP JP CN DE DE EP KR TW US | 3350376 B2 10163827 A 1185685 A ,B 69713252 D1 69713252 T2 0844736 A2 265064 B1 404093 B 6038049 A | 25-11-2002 19-06-1998 24-06-1998 18-07-2002 19-12-2002 27-05-1998 01-09-2000 01-09-2000 14-03-2000 |
| US 5969646 | A | 19-10-1999 | NONE | | |
| JP 06096405 | A | 08-04-1994 | NONE | | |